



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,473	02/23/2005	Peter Bode	DE02 0198 US	3287
65913	7550	11/13/2008		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131				
EXAMINER				
PEREZ, JAMES M				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
11/13/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/525,473

Applicant(s)

BODE ET AL.

Examiner

JAMES M. PEREZ

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-8,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-8,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This Office Action is responsive to the amendments filed on 7/21/2008.

Currently, claims 1-2, 6-8, and 10-11 are pending.

Response to Arguments

1. Applicant's arguments with respect to claims 1-2, 6-8, and 10-11 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed 3/21/2005 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the reference listed in said IDS are not relevant to the transmitter, wherein said reference disclose chemical/biological subject matter. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

3. The specification is objected to for the following informalities:

(1) Page 3, line 19 through page 4, line 19 of the specification of the instant application references claims 2-10 as being comprehensive of specific embodiments of the invention. The examiner notes that this is improper since the limitations of the cited

claims have been changed throughout prosecution of the instant application. The examiner suggests removing said claim references from the specification with respect to page 3, line 19 through page 4, line 19.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 7 and 8 are rejected under 35 U.S.C. 101, since the claimed invention is directed to non-statutory subject matter.

With respect to claims 7 and 8, are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Thus a computer-readable medium is not disclosed and is new matter with reference to the original disclosure of the instant application.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) in view of Vankka et al. (Vankka et al. "A GSM/EDGE/WCDMA modulator with on-chip D/A converter for base station," IEEE International Solid-State Circuits Conference. Digest of Technical Papers, San Francisco, USA, vol. 1, 5 February 2002).

With regards to claims 1, 7, and 11, Sander teaches a modulator and method for generating a digital I/Q signal having a plurality of slots (fig. 18A-B: paragraphs 17, 37, and 70-74), the modulator comprising:

means for introducing a dip in an envelope of the digital I/Q signal (fig. 18A-B: paragraphs 17, 37, and 70-74) in a guard interval between adjacent slots of the plurality of slots (paragraphs 12, 17, 37, and 70-74); and

said modulator being part of a transmitter (figs. 18A-B: paragraph 31).

Sander does not explicitly teach two Limitations: Limitation 1) said slots are time-slots; and Limitation 2) a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform.

Limitation 1)

It would be obvious to one of ordinary skill in the art at the time of the invention that since the use of TDMA is disclosed (paragraphs 4-5 and 99) that said plurality of slots are obviously a plurality of time-slots in a TDMA system.

Limitation 2)

Vankka teaches a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform (fig. 1, 4, and 14: elements "Ramp Generator and power level controller" and the multiplier in the digital domain: page 647 Section III and figs.12-13: as described in page 652, Section VI, second column through page 652, Section VI, first column).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator with power ramping as disclosed in Sander with the GSM/EDGE power ramping of Vankka since such a modification has the benefits of increased power control accuracy thereby satisfying the EDGE and GSM spectral masks.

10. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) in view of Vankka et al. (Vankka et al. "A GSM/EDGE/WCDMA modulator with on-chip D/A converter for base station," IEEE International Solid-State Circuits Conference. Digest of Technical Papers, San Francisco, USA, vol. 1, 5 February 2002) as applied to claims 1 and 7 above, further in view of Ichihara (USPN 6,587,513).

With regards to claims 2 and 8, Sander in view of Vankka teaches the limitations of claims 1 and 7.

Sander does not explicitly teach another digital multiplier, the digital multiplier being used to multiply the I signal with the dip-shaped waveform, the another digital multiplier being used to multiply the Q signal with the dip-shaped waveform.

Ichihara teaches a plurality of digital multipliers for separately multiplying I and Q signals with a digital waveform (fig. 1: elements 1-8: col. 4, lines 50-65 and col. 5, line 53 through col. 6, line 23).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the known transmitter and modulator of Sander with the known variable multiplier gains of Ichihara in order to yield predictable results and benefits such as reducing system complexity by separately performing power ramping on the I and Q signals.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) in view of Vankka et al. (Vankka et al. "A GSM/EDGE/WCDMA modulator with on-chip D/A converter for base station," IEEE International Solid-State Circuits Conference. Digest of Technical Papers, San Francisco, USA, vol. 1, 5 February 2002) as applied to claim 1 above, further in view of Ichihara (USPN 6,587,513), and further in view of Khoini-Poorfard (US 2002/0168026).

With regards to claim 6, Sander in view of Vankka teaches the limitations of claim 1.

Sander teaches the modulator is a GMSK modulator and a QAM modulator (fig. 18A: elements 1803, 1822, 1899, and 1804).

Sander does not explicitly teach the use GMSK and 8PSK modulator.

Kohini-Poorfard teaches a combined GMSK and 8PSK modulator (paragraph 7).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator of Sander with the GSM/EDGE modulator of Khoini-Poorfard in order to reduce component redundancy of the GSM/EDGE modulator.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) in view of Vankka et al. (Vankka et al. "A GSM/EDGE/WCDMA modulator with on-chip D/A converter for base station," IEEE International Solid-State Circuits Conference. Digest of Technical Papers, San Francisco, USA, vol. 1, 5

February 2002) and further in view of Langberg (USPN 5,852,630).

With regards to claim 10, Sander teaches method for generating a digital I/Q signal having a plurality of slots (fig. 18A-B: paragraphs 17, 37, and 70-74), the modulator comprising:

means for introducing a dip in an envelope of the digital I/Q signal (fig. 18A-B: paragraphs 17, 37, and 70-74) in a guard interval between adjacent slots of the plurality of slots (paragraphs 12, 17, 37, and 70-74); and

said modulator being part of a transmitter (figs. 18A-B: paragraph 31).

Sander does not explicitly teach three Limitations: Limitation 1) said slots are time-slots; Limitation 2) a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform; and Limitation 3) all the subject matter as above except for the method written by a software program embodied in a computer-readable medium.

Limitation 1)

It would be obvious to one of ordinary skill in the art at the time of the invention that since the use of TDMA is disclosed (paragraphs 4-5 and 99) that said plurality of slots are obviously a plurality of time-slots in a TDMA system.

Limitation 2)

Vanka teaches a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform (fig. 14, 4, 1: elements "Ramp Generator and power level controller" and the multiplier in the digital domain).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator with power ramping as disclosed in Sander with the GSM/EDGE power ramping of Vankka in order to create an improved system with increased capability to satisfy the EDGE and GSM spectral masks.

Limitation 3)

Langberg teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implement in software stored in a computer-readable medium. The computer-readable medium is an electronic, magnetic, optical, or other physical device or mean that can contain or store a computer program for use by or in connection with a computer-related system or method (col. 3, lines 51-65). One skilled in the art would have clearly recognized that the method of Sander in view of Vannka would have been implemented in software. The implemented software would perform the same function of hardware for less expense, and increased adaptability, and flexibility. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the software as taught by Langberg in the method of Sander in order to reduce cost and improve the adaptability and flexibility of the communication system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is (571)270-3231. The examiner can normally be reached on Monday through Friday: 9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Perez/
Examiner, Art Unit 2611
11/6/2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611